

CLAIMS

1. A process for producing a fermentation product in a fermentation medium which process include a fermentation step, comprising subjecting the fermentation medium to at least one surfactant and at least one carbohydrate-source generating enzyme.
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2. The process of claim 1, wherein the surfactant is an alcohol ethoxylate.
3. The process of claim 1, wherein fermentation is carried out using a fermenting microorganism, preferably yeast.
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4. The process of any of claims 1-3, wherein said fermentation product is ethanol.
5. The process of any of claims 1-4, wherein the carbohydrate-source generating enzyme is glucoamylase or an alpha-amylase, or mixtures thereof, preferably in mixture of acidic fungal alpha-amylase activity (AFAU) per glucoamylase activity (AGU) (AFAU per AGU) of at least 0.1, in particular at least 0.16, such as in the range from 0.12 to 0.50.
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6. The process of claim 5, wherein the glucoamylase is derived from a strain of the genus *Corticium*, preferably a strain of *C. rolfsii*, the genus *Talaromyces*, preferably *T. emersonii*, the genus *Aspergillus*, preferably *Aspergillus niger*.
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7. The process of any of claims 1-6, wherein further a cellulase, cellobiase, or hemicellulase is present.
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8. The process of any of claims 1-7, wherein fermentation step which is part of a simultaneous saccharification and fermentation process (SSF) or a liquefaction, saccharification, and fermentation process (LSF).
9. The process of any of claims 1-8, wherein the fermentation step is carried out in the presence of further one or more enzymes selected from the group consisting of an esterase, phytase, xylanase, laccase, protease, alpha-amylase, and glucoamylase.
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10. The process of any of claims 1-9, wherein the fermentation is part of a dry milling process or of a wet milling process.
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11. The process of claim 10, wherein the raw material for milling process is a starch-containing raw material, such as corn, wheat, barley, or milo.
12. A process for producing ethanol, comprising
- 5 (a) milling whole grains;
- (b) liquefying the product of step (a);
- (c) saccharifying the liquefied material obtained in step (b);
- (d) fermenting the saccharified material using a fermenting microorganism, wherein the fermentation process further comprises contacting the fermentation media with
- 10 at least one surfactant, at least one carbohydrate-source generating enzyme.
13. The process of claim 12, wherein the carbohydrate-source generating enzyme is a glucoamylase or an alpha-amylase or mixtures thereof, preferably in mixture of acidic fungal alpha-amylase activity (AFAU) per glucoamylase activity (AGU) (AFAU per AGU) of at least
- 15 0.1, in particular at least 0.16, such as in the range from 0.12 to 0.50.
14. The process of claim 13, wherein the glucoamylase is derived from a strain of the genus *Corticium*, preferably a strain of *C. rolfsii*, the genus *Talaromyces*, preferably *T. emersonii*, the genus *Aspergillus*, preferably *Aspergillus niger*.
- 20 15. The process of claim 12, further comprising distilling the fermented material.
16. The process of any of claims 12-15, wherein said process is a simultaneous liquefaction and saccharification process (SSF) or a simultaneous liquefaction,
- 25 saccharification and fermentation process (LSF).
17. The process of any of claims 12-16, wherein said process comprises adding one or more further enzymes from the group of esterase, such as lipase or cutinase, phytase, cellulase or hemicellulase, xylanase, alpha-amylase, glucoamylase or mixtures thereof.
- 30 18. The process of claim 17, wherein said surfactant is an alcohol ethoxylate.
19. The process of claim 12, wherein said fermenting microorganism is yeast.
- 35 20. The process of claim 19, wherein the yeast is a strain of *Saccharomyces cerevisia*.